

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
U.S. Application No.: 10/022,896

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A wide bandwidth Raman amplifier including a laser pump source for producing a wideband pump radiation signal having a plurality of different radiation wavelengths, and means for adjustable independent power control of each of the plurality of different radiation wavelengths of said wideband pump radiation signal produced by said laser pump source.

2. (Original) An amplifier according to claim 1 including only one pump source.

3. (Previously presented) An amplifier according to claim 1 wherein the means for independent power control includes one or more reflectors.

4. (Previously presented) An amplifier according to claim 3 wherein each reflector produces optical feedback to the pump source at a respective different one of said plurality of wavelengths.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
U.S. Application No.: 10/022,896

5. (Previously presented) An amplifier according to claim 1 wherein the means for power control of each pump radiation wavelength includes one or more variable optical attenuators.

6. (Currently amended) An amplifier according to claim ~~5~~ wherein there is a separate variable attenuator for each reflector.

7. (Original) An amplifier according to claim 1 wherein at least some pump radiation of more than one wavelength is coupled to the signal to be amplified.

8. (Currently amended) An amplifier according to claim 5, further comprising ~~including~~ control means for controlling and/or adjusting the attenuation of each variable optical attenuator(s).

9. (Currently amended) An amplifier according to ~~of~~ claim 1 wherein the means for independent power control includes one or more optical switches providing either substantially no attenuation or substantially 100% attenuation depending on the setting of the switch.

10. (Currently amended) An amplifier according to claim 9, further comprising ~~including~~ control means for selectively controlling the switches in order to change the overall characteristics of the amplifier.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
U.S. Application No.: 10/022,896

11. (Currently amended) A method of providing a wide bandwidth Raman amplifier ~~including the step of comprising~~ producing from a single pump laser source a wideband pump radiation signal by providing independently adjustable optical feedback to the laser source at a plurality of different wavelengths of said wideband pump radiation signal produced by said single pump laser source.

12. (Currently amended) A wide bandwidth Raman amplifier producing a wideband pump radiation signal having a plurality of different wavelength components from a single laser pump source, said amplifier including means for independently adjusting the magnitudes of a plurality of different wavelength components of a said wideband pump radiation signal to alter the amplifier gain profile during amplifier operation.

13. (Previously presented) A wide bandwidth Raman amplifier including only one laser pump source of pump radiation, and means for producing from the pump source a wideband pump radiation signal having a plurality of different wavelength components, said means for producing including:

means including at least one reflector for adjustable independent power control of plural of said different radiation wavelengths wherein each reflector produces optical feedback to the pump source at a different one of said wavelengths.